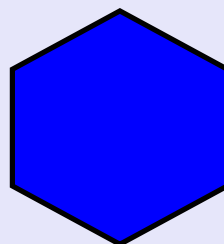
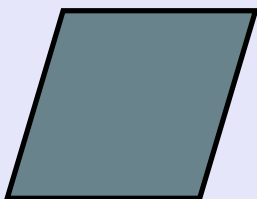
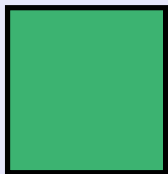


# Angles of Polygons



Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm

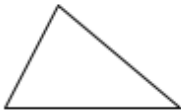


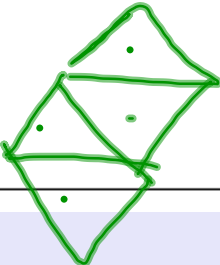


Complete Labsheet 4B (both sides)

$$\begin{array}{r} 21 \\ +13 \\ \hline 34 \end{array}$$



Now it's time  
for partner work!

Name of Polygon	Number of Sides	Draw the Polygon (Hint: add a triangle to the shape above it and the new triangle must share a side with the new shape)	Number of Triangles	Sum of the measure of the interior angles
Triangle	3		1	180°
Quadrilateral	4		2	360°
Pentagon	5		3	540°
Hexagon	6		4	720°

57

57

55

## Interior Angle Sum

$$(n-2)180 = \text{Sum of}$$

↓  
# of sides  
of a polygon

the  
interior  
angles  
of a  
polygon

Labsheet continued . . .

1) How is the number of triangles in each polygon related to the number of sides of the polygon?

2) How can you find the sum of the measures of the interior angles of any convex polygon?

3) Find the sum of the interior angles of each polygon.

a. an octagon

$$8 \quad (n-2) \cdot 180$$

b. 12-sided figure

$$(12-2) \cdot 180$$

c. 23-sided figure

$$6 \cdot 180$$

$$1080^\circ$$

4. The interior angles of a regular polygon are congruent.

A. What is the measure of one interior angle of a regular hexagon?

B. What is the measure of one interior angle of a regular pentagon?

5. Write an expression that could be used to find the measure of one interior angle of a regular polygon with  $n$  sides.

## WRAP UP

What formula did you discover today?

To find the sum of the measures of interior angles of a convex polygon:  $s = (n-2) 180$     {s=sum, n=number of sides}

# HOMEWORK